Comparisons of Job Characteristics

Focus Occupation: Computer Software Engineers, Applications (15-1031)
Associated Occupation: Computer Software Engineers, Systems Software (15-1032)

Compare Knowledge
Compare Skills
Compare Abilities
Compare Detailed Work Activities
Compare Tools and Technologies

<<	Focus occupation element is much lower
<	Focus occupation element is lower
0	Focus occupation element is at a similar level
>	Focus occupation element is at a higher level
>>	Focus occupation element is at a much higher level

Knowledge

Similarity of Focus Occupation to Associated Occupation: 94

Focus Occupation: Computer Software Engineers, Applications (15-1031)
Associated Occupation: Computer Software Engineers, Systems Software (15-1032)

Associated Occupation's Key Knowledge Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating		Evaluation of Focus Occupation
Computers and Electronics	8.4	23.1	23.8	0	Current knowledge level may be sufficient
Engineering and Technology	5.7	14.6	10.1	<<	Extensive education and/or training may be required
Customer and Personal Service	11.3	11.8	6.6	<<	Extensive education and/or training may be required
Design	5.2	10.9	6.6	<<	Extensive education and/or training may be required
Telecommunications	3.9	8.3	4.2	<<	Extensive education and/or training may be required

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Skills

Similarity of Focus Occupation to Associated Occupation: 70

Focus Occupation: Computer Software Engineers, Applications (15-1031)
Associated Occupation: Computer Software Engineers, Systems Software (15-1032)

Associated Occupation's Key Skills Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating		Evaluation of Focus Occupation
Programming	2.2	12.6	14.6	>	Skill level is likely sufficient
Operations Analysis	5.0	12.0	11.4	0	Current skill level may be sufficient
Systems Evaluation	6.4	10.7	13.4	>	Skill level is likely sufficient
Systems Analysis	6.5	10.2	13.3	>>	Skill level is likely more than sufficient
Technology Design	2.6	8.1	10.3	>	Skill level is likely sufficient

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Abilities

Similarity of Focus Occupation to Associated Occupation: 95

Focus Occupation: Computer Software Engineers, Applications (15-1031)
Associated Occupation: Computer Software Engineers, Systems Software (15-1032)

Associated Occupation's Key Abilities Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating		Evaluation of Focus Occupation
Oral Comprehension	12.5	14.5	12.0	<	Some improvement in abilities may be required
Written Comprehension	11.0	13.8	11.7	<	Some improvement in abilities may be required
Deductive Reasoning	10.6	12.6	13.6	0	Current ability level may be sufficient
Written Expression	9.8	12.3	10.0	<	Some improvement in abilities may be required
Inductive Reasoning	10.2	11.8	12.3	0	Current ability level may be sufficient
Information Ordering	9.9	11.4	11.6	0	Current ability level may be sufficient
Mathematical Reasoning	6.3	9.8	12.4	>	Current ability level is likely sufficient
Originality	7.6	9.3	10.8	>	Current ability level is likely sufficient

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Activities that Both Occupations Have in Common

Similarity of Focus Occupation to Associated Occupation: 100

Focus Occupation: Computer Software Engineers, Applications (15-1031)
Associated Occupation: Computer Software Engineers, Systems Software (15-1032)

Work Activities	Exclusivity of Activity
Adjust computer operation system	84
Advise clients regarding engineering problems	67
Analyze technical data, designs, or preliminary specifications	47
Check hardware or software to determine reliability	95
Communicate technical information	4
Conduct performance testing	66
Consult with customers concerning needs	69
Design computer hardware or software interface	87
Design data processing systems	92
Design data security systems	89
Design electronic equipment	74
Design hardware or software systems	92
Design systems in cooperation with colleagues	84
Develop computer performance standards	87
Develop mathematical or computer languages	89

Develop or maintain databases	30
Develop tables depicting data	33
Evaluate computer system user requests or requirements	81
Evaluate prototype computer software systems	89
Follow data security procedures	77
Follow data storage procedures	75
Make presentations	13
Prepare technical reports or related documentation	22
Program computers for electronic engineering applications	87
Program mainframe computer	84
Provide technical computer training	82
Read blueprints	10
Read schematics	34
Read technical drawings	7
Recommend purchase, repair, or modification of equipment	82
Recommend software or hardware purchases	85
Resolve engineering or science problems	46
Revise or correct errors in computer programs, software, or systems	85
Test computer programs or systems	78
Train workers in use of equipment	87
Understand detailed electronic design specifications	70
Understand engineering data or reports	48
Use computer networking technology	81
Use computer programming language	82
Use computers to enter, access or retrieve data	3
Use knowledge of mainframe computers	78
Use project management techniques	47
Use scientific research methodology	21
Use spreadsheet software	18
Write computer software, programs, or code	84
Write documentation for computer programming	87
Write technical specifications for computer systems, software or applications	92

Not all positions in these occupations will necessarily perform all of the listed activities. The exclusivity rating is an indication of how unique the activity is amongst all occupations. The maximum rating is 100. High scores indicate that only a small number of occupations engage in that activity.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Tools and Technologies that Both Occupations Have in Common

Similarity of Focus Occupation to Associated Occupation: 94

Focus Occupation: Computer Software Engineers, Applications (15-1031)
Associated Occupation: Computer Software Engineers, Systems Software (15-1032)

Tools and Technologies	Exclusivity
Business function specific software	1
Computers	1
Content authoring and editing software	1
Content management software	6

Data management and query software	1
Development software	4
Electronic and communication measuring and testing instruments	14
Industry specific software	1
Network applications software	1
Networking software	21
Operating environment software	12
Security and protection software	30
Utility and device driver software	17

Not all positions in these occupations will necessarily use all of the listed tools and technologies. The exclusivity rating is an indication of how unique the tool or technology is amongst all occupations. The maximum rating is 100. High scores indicate that only a small number of occupations use that tool or technology.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.